

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/820,067A  
Source: IFWO  
Date Processed by STIC: 5/26/05

# ***ENTERED***



IFWO

## RAW SEQUENCE LISTING

DATE: 05/26/2005

PATENT APPLICATION: US/10/820,067A

TIME: 10:02:50

Input Set : D:\SEQLIST 8449-406 (substitute).TXT

Output Set: N:\CRF4\05262005\J820067A.raw

4 <110> APPLICANT: Fletchner, J.  
5 Prince-Cohane, K.  
6 Mehta, S.  
7 Slusarewicz, P.  
8 Andjelic, S.  
9 Barber, B.  
11 <120> TITLE OF INVENTION: IMPROVED HEAT SHOCK PROTEIN-BASED  
12 VACCINES AND IMMUNOTHERAPIES  
15 <130> FILE REFERENCE: 8449-406-999  
17 <140> CURRENT APPLICATION NUMBER: 10/820,067A  
18 <141> CURRENT FILING DATE: 2004-04-08  
20 <150> PRIOR APPLICATION NUMBER: 60/462,469  
21 <151> PRIOR FILING DATE: 2003-04-11  
23 <150> PRIOR APPLICATION NUMBER: 60/463,746  
24 <151> PRIOR FILING DATE: 2003-04-18  
26 <150> PRIOR APPLICATION NUMBER: 60/503,417  
27 <151> PRIOR FILING DATE: 2003-09-16  
29 <160> NUMBER OF SEQ ID NOS: 926  
31 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
33 <210> SEQ ID NO: 1  
34 <211> LENGTH: 4  
35 <212> TYPE: PRT  
36 <213> ORGANISM: Malaria  
38 <400> SEQUENCE: 1  
39 Asn Ala Asn Pro  
40 1  
43 <210> SEQ ID NO: 2  
44 <211> LENGTH: 9  
45 <212> TYPE: PRT  
46 <213> ORGANISM: Unknown  
48 <220> FEATURE:  
49 <223> OTHER INFORMATION: HLA-A2 peptide binding motif  
51 <220> FEATURE:  
52 <221> NAME/KEY: VARIANT  
53 <222> LOCATION: 2  
54 <223> OTHER INFORMATION: Xaa = Leu or Met  
56 <220> FEATURE:  
57 <221> NAME/KEY: VARIANT  
58 <222> LOCATION: 6  
59 <223> OTHER INFORMATION: Xaa = Val or Ile or Leu or Thr  
61 <220> FEATURE:  
62 <221> NAME/KEY: VARIANT  
63 <222> LOCATION: 9

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```

64 <223> OTHER INFORMATION: Xaa = Val or Leu
66 <220> FEATURE:
67 <221> NAME/KEY: VARIANT
68 <222> LOCATION: 1, 3, 4, 5, 7, 8
69 <223> OTHER INFORMATION: Xaa = any amino acid
71 <400> SEQUENCE: 2
W--> 72 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
73 1 5
76 <210> SEQ ID NO: 3
77 <211> LENGTH: 9
78 <212> TYPE: PRT
79 <213> ORGANISM: Unknown
81 <220> FEATURE:
82 <223> OTHER INFORMATION: HLA-A2 peptide binding motif
84 <220> FEATURE:
85 <221> NAME/KEY: VARIANT
86 <222> LOCATION: 2
87 <223> OTHER INFORMATION: Xaa = Leu or Met
89 <220> FEATURE:
90 <221> NAME/KEY: VARIANT
91 <222> LOCATION: 1, 3, 4, 5, 6, 7, 8
92 <223> OTHER INFORMATION: Xaa = any amino acid
94 <400> SEQUENCE: 3
W--> 95 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Val
96 1 5
99 <210> SEQ ID NO: 4
100 <211> LENGTH: 8
101 <212> TYPE: PRT
102 <213> ORGANISM: Unknown
104 <220> FEATURE:
105 <223> OTHER INFORMATION: HLA-A2 peptide binding motif
107 <220> FEATURE:
108 <221> NAME/KEY: VARIANT
109 <222> LOCATION: 2
110 <223> OTHER INFORMATION: Xaa = Val or Gln
112 <220> FEATURE:
113 <221> NAME/KEY: VARIANT
114 <222> LOCATION: 1, 3, 4, 5, 6, 7
115 <223> OTHER INFORMATION: Xaa = any amino acid
117 <400> SEQUENCE: 4
W--> 118 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu
119 1 5
122 <210> SEQ ID NO: 5
123 <211> LENGTH: 5
124 <212> TYPE: PRT
125 <213> ORGANISM: Unknown
127 <220> FEATURE:
128 <223> OTHER INFORMATION: HLA-DR peptide binding motif
130 <400> SEQUENCE: 5

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```

131 Gln Lys Arg Ala Ala
132 1 5
135 <210> SEQ ID NO: 6
136 <211> LENGTH: 5
137 <212> TYPE: PRT
138 <213> ORGANISM: Unknown
140 <220> FEATURE:
141 <223> OTHER INFORMATION: HLA-DR peptide binding motif
143 <400> SEQUENCE: 6
144 Arg Arg Arg Ala Ala
145 1 5
148 <210> SEQ ID NO: 7
149 <211> LENGTH: 7
150 <212> TYPE: PRT
151 <213> ORGANISM: Unknown
153 <220> FEATURE:
154 <223> OTHER INFORMATION: motif in heptamiric region recognized by heat
155 shock protein
157 <220> FEATURE:
158 <221> NAME/KEY: VARIANT
159 <222> LOCATION: 2
160 <223> OTHER INFORMATION: Xaa = Trp or any amino acid
162 <220> FEATURE:
163 <221> NAME/KEY: VARIANT
164 <222> LOCATION: 1, 3, 5, 7
165 <223> OTHER INFORMATION: Xaa = hydrophobic amino acid residues
167 <220> FEATURE:
168 <221> NAME/KEY: VARIANT
169 <222> LOCATION: 4, 6
170 <223> OTHER INFORMATION: Xaa = any amino acid
172 <400> SEQUENCE: 7
W--> 173 Xaa Xaa Xaa Xaa Xaa Xaa Xaa
174 1 5
177 <210> SEQ ID NO: 8
178 <211> LENGTH: 7
179 <212> TYPE: PRT
180 <213> ORGANISM: Unknown
182 <220> FEATURE:
183 <223> OTHER INFORMATION: motif in heptamiric region recognized by heat
184 shock protein
186 <220> FEATURE:
187 <221> NAME/KEY: VARIANT
188 <222> LOCATION: 2
189 <223> OTHER INFORMATION: Xaa = Trp or any amino acid
191 <220> FEATURE:
192 <221> NAME/KEY: VARIANT
193 <222> LOCATION: 1, 3, 5, 7
194 <223> OTHER INFORMATION: Xaa = hydrophobic amino acid residue, particularly
195 tryptophan, leucine or phenylalanine

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```

197 <220> FEATURE:
198 <221> NAME/KEY: VARIANT
199 <222> LOCATION: 4, 6
200 <223> OTHER INFORMATION: Xaa = any amino acid
202 <400> SEQUENCE: 8
W--> 203 Xaa Xaa Xaa Xaa Xaa Xaa Xaa
204 1 5
207 <210> SEQ ID NO: 9
208 <211> LENGTH: 4
209 <212> TYPE: PRT
210 <213> ORGANISM: Artificial Sequence
212 <220> FEATURE:
213 <223> OTHER INFORMATION: peptide linker in between antigenic domain and
214 heat shock binding domain of hybrid antigen
217 <220> FEATURE:
218 <221> NAME/KEY: VARIANT
219 <222> LOCATION: 1
220 <223> OTHER INFORMATION: Xaa = Ala/Ser/Val/Lys/Glu/Gly/Leu
222 <220> FEATURE:
223 <223> OTHER INFORMATION: In the order of preference, with Ala the most preferred
225 <220> FEATURE:
226 <221> NAME/KEY: VARIANT
227 <222> LOCATION: 2
228 <223> OTHER INFORMATION: Xaa = Lys/Val/Glu
230 <220> FEATURE:
231 <223> OTHER INFORMATION: In the order of preference, with Lys the most preferred
233 <220> FEATURE:
234 <221> NAME/KEY: VARIANT
235 <222> LOCATION: 3
236 <223> OTHER INFORMATION: Xaa = Val/Ser/Phe/Thr/Lys/Ala/Glu
238 <220> FEATURE:
239 <223> OTHER INFORMATION: In the order of preference, with Val the most preferred
241 <400> SEQUENCE: 9
W--> 242 Xaa Xaa Xaa Leu
243 1
246 <210> SEQ ID NO: 10
247 <211> LENGTH: 10
248 <212> TYPE: PRT
249 <213> ORGANISM: Adeno Virus
251 <400> SEQUENCE: 10
252 Ser Gly Pro Ser Asn Thr Pro Pro Glu Ile
253 1 5 10
256 <210> SEQ ID NO: 11
257 <211> LENGTH: 11
258 <212> TYPE: PRT
259 <213> ORGANISM: Lymphocytic Choriomeningitis Virus (LCMV)
261 <400> SEQUENCE: 11
262 Ser Gly Val Glu Asn Pro Gly Gly Tyr Cys Leu
263 1 5 10

```

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Input Set : D:\SEQLIST 8449-406 (substitute).TXT

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```

266 <210> SEQ ID NO: 12
267 <211> LENGTH: 10
268 <212> TYPE: PRT
269 <213> ORGANISM: Lymphocytic Choriomeningitis Virus (LCMV)
271 <400> SEQUENCE: 12
272 Lys Ala Val Tyr Asn Phe Ala Thr Cys Gly
273   1           5           10
276 <210> SEQ ID NO: 13
277 <211> LENGTH: 9
278 <212> TYPE: PRT
279 <213> ORGANISM: Lymphocytic Choriomeningitis Virus (LCMV)
281 <400> SEQUENCE: 13
282 Arg Pro Gln Ala Ser Gly Val Tyr Met
283   1           5
286 <210> SEQ ID NO: 14
287 <211> LENGTH: 9
288 <212> TYPE: PRT
289 <213> ORGANISM: Lymphocytic Choriomeningitis Virus (LCMV)
291 <400> SEQUENCE: 14
292 Phe Gln Pro Gln Asn Gly Gln Phe Ile
293   1           5
296 <210> SEQ ID NO: 15
297 <211> LENGTH: 9
298 <212> TYPE: PRT
299 <213> ORGANISM: Influenza Virus
301 <400> SEQUENCE: 15
302 Ile Glu Gly Gly Trp Thr Gly Met Ile
303   1           5
306 <210> SEQ ID NO: 16
307 <211> LENGTH: 10
308 <212> TYPE: PRT
309 <213> ORGANISM: Influenza Virus
311 <400> SEQUENCE: 16
312 Thr Tyr Val Ser Val Ser Thr Ser Thr Leu
313   1           5           10
316 <210> SEQ ID NO: 17
317 <211> LENGTH: 8
318 <212> TYPE: PRT
319 <213> ORGANISM: Influenza Virus
321 <400> SEQUENCE: 17
322 Phe Glu Ala Asn Gly Asn Leu Ile
323   1           5
326 <210> SEQ ID NO: 18
327 <211> LENGTH: 9
328 <212> TYPE: PRT
329 <213> ORGANISM: Influenza Virus
331 <400> SEQUENCE: 18
332 Ile Tyr Ser Thr Val Ala Ser Ser Leu
333   1           5

```

RAW SEQUENCE LISTING ERROR SUMMARY  
 PATENT APPLICATION: US/10/820,067A

DATE: 05/26/2005  
 TIME: 10:02:51

Input Set : D:\SEQLIST 8449-406 (substitute).TXT  
 Output Set: N:\CRF4\05262005\J820067A.raw

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; Xaa Pos. ~~1,2,3,4,5,6,7,8,9~~  
 Seq#:3; Xaa Pos. ~~1,2,3,4,5,6,7,8~~  
 Seq#:4; Xaa Pos. ~~1,2,3,4,5,6,7~~  
 Seq#:7; Xaa Pos. ~~1,2,3,4,5,6,7~~  
 Seq#:8; Xaa Pos. ~~1,2,3,4,5,6,7~~  
 Seq#:9; Xaa Pos. ~~1,2,3~~  
 Seq#:401; Xaa Pos. 7  
 Seq#:402; Xaa Pos. 3  
 Seq#:407; Xaa Pos. 2,6  
 Seq#:454; Xaa Pos. 5  
 Seq#:564; Xaa Pos. 7  
 Seq#:565; Xaa Pos. 3  
 Seq#:570; Xaa Pos. 2,6  
 Seq#:617; Xaa Pos. 5  
 Seq#:805; Xaa Pos. 7  
 Seq#:806; Xaa Pos. 3  
 Seq#:811; Xaa Pos. 2,6  
 Seq#:858; Xaa Pos. 5

## VERIFICATION SUMMARY

DATE: 05/26/2005

PATENT APPLICATION: US/10/820,067A

TIME: 10:02:51

Input Set : D:\SEQLIST 8449-406 (substitute).TXT

Output Set: N:\CRF4\05262005\J820067A.raw

L:72 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0  
L:95 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0  
L:118 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0  
L:173 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0  
L:203 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0  
L:242 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0  
L:520 M:283 W: Missing Blank Line separator, <400> field identifier  
L:4976 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:401 after pos.:0  
L:4994 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:402 after pos.:0  
L:5064 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:407 after pos.:0  
L:5680 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:454 after pos.:0  
L:7115 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:564 after pos.:0  
L:7133 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:565 after pos.:0  
L:7203 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:570 after pos.:0  
L:7819 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:617 after pos.:0  
L:10437 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:805 after pos.:0  
L:10456 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:806 after pos.:0  
L:10531 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:811 after pos.:0  
L:11194 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:858 after pos.:0